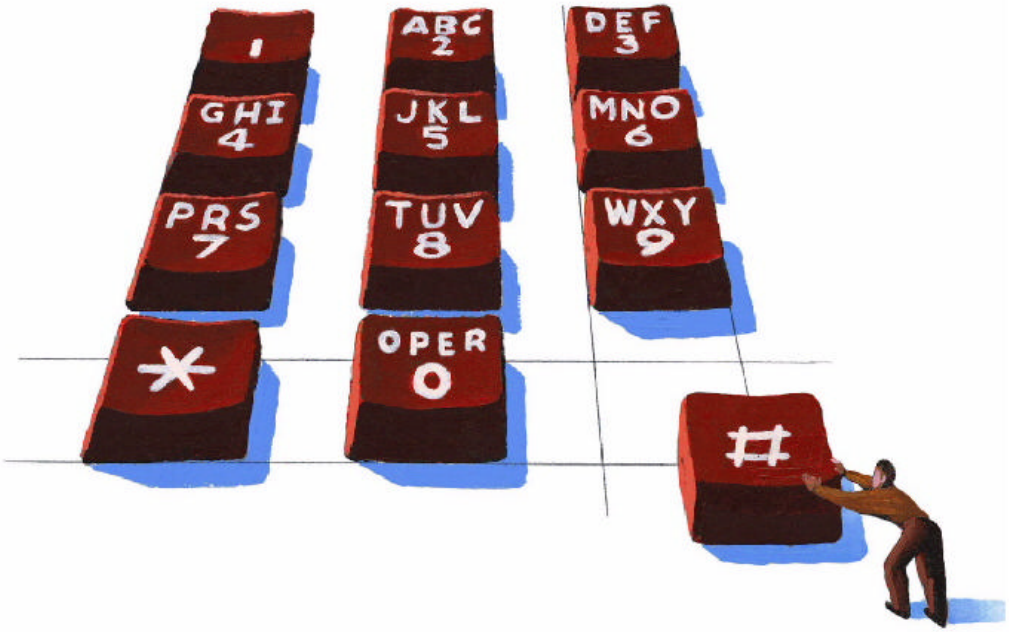
Installation and Configuration Guide

Quintum Tenor DX



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Quintum Tenor DX
Installation and Configuration Guide

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05.15.2008

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Hardware Connections

Connect your PC to the same network as the Quintum Tenor DX.

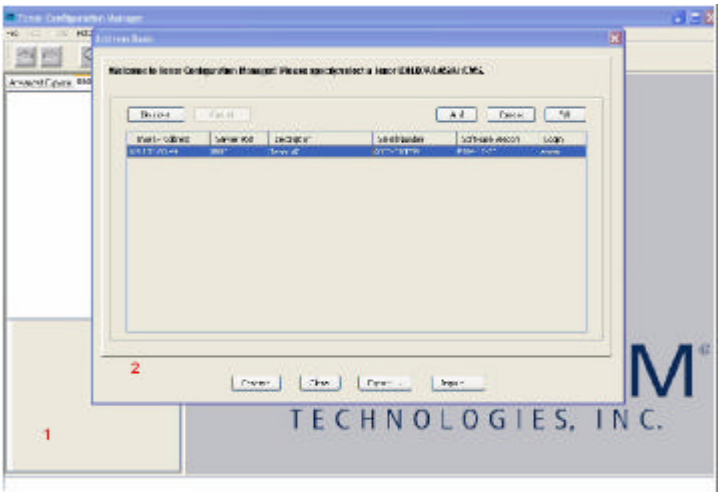
Configuring the Device

You need the Quintum Configuration Manager software to configure the Quintum Tenor DX. If you have not installed the software, download and install the latest version at http://ae.quintum.com/support/mgmt/index.shtml (scroll down to the **Tenor Configuration Manager** section of the page).

Perform the following steps to configure your device.

1. Launching the Configuration Manager

a. Click the **Start** button. Then click **Programs**-->**Quintum**-->**Tenor Configuration Manager**-->**Tenor Configuration Manager**.
The Tenor Configuration Manager window opens.



Initial Configuration Manager Window

You will get 2 overlapping windows, window (**1**) is the Main Configuration Window and window (**2**) is the Address Book. Normally, the Address Book will be populated with the detected Quintum devices on your network.

If you need to verify your software version, do the following:

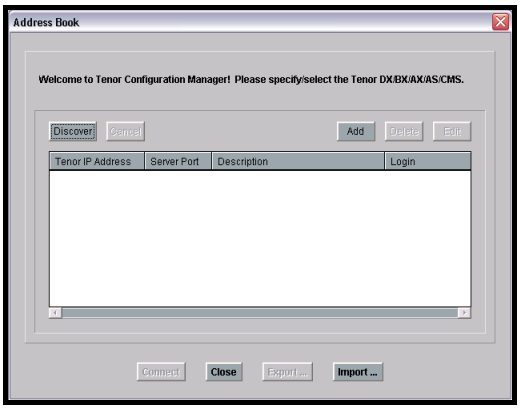
a. Click the **Close** button.

b. Verify that the Client Version is **106.10.00_121707** or higher by clicking **Help**-->**About**. If it is not, download and install the latest version of the Configuration Manager at http://ae.quintum.com/support/mgmt/index.shtml.

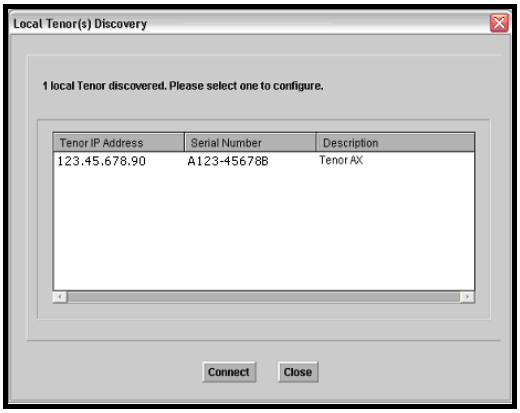
If you have the correct version, proceed to the next section.

2. Connecting to the Device

a. If you closed the original Address Book window, on the menu bar at the top of the Main Configuration window, click **File** -->**Connect**.
The Address Book window opens.



b. If you don't find your device in the Address Book window, click the **Discover** button.
The Configuration Manager will search the local network for active gateways and display the results in the Discovery window.



NOTE: If the Discovery window does not show any Quintum device, you might need to set the IP address manually. Go to the section Appendix: Assigning the Device IP Address Manually for the procedure.

c. Click on the Tenor you wish to configure, and then click the **Connect** button.
The Login and Password window opens.

NOTE: If more than one gateway is shown in the Discovery window and you are unsure which you want to configure, match the Serial Number displayed in the Discovery window to the Serial Number located on the bottom of the Gateway.

d. Login by using the default login: **admin** and the default password: **admin**. Then click the **OK** button.

The Configuration Manager window appears.

(**1**) shows your device IP address, serial number and the firmware version. (**2**) gives you the Basic Configuration options.

NOTE: If the Configuration Wizard does not start, restore the factory default settings by clicking on **Action-->Set Factory** from the Tenor Configuration Manager window. When the defaults have been restored, reconnect to the Tenor and the Wizard will start.

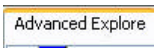
IMPORTANT: The Configuration Manager may check the Quintum server for new firmware. If it does, click the **Cancel** button to tell the Configuration Manager not to upgrade the firmware. Clicking **OK** may prevent the device from accessing the call network as only version P104_12_10 has access to the network.

Download Software Dialog
Current version loaded on the AS: 103-04-00
Latest version available: P103-05-00
Do you want to download the latest Tenor AS software?
Click OK button to start downloading the latest software from Web/FTP Site.
OK
Cancel

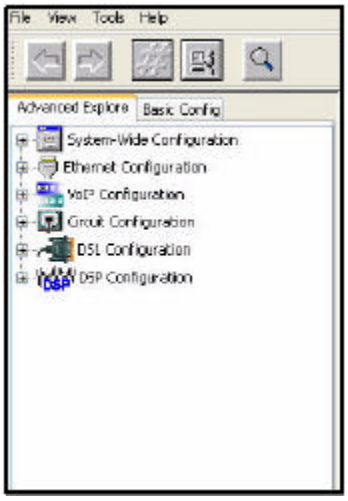
IMPORTANT: If your Tenor AFG has upgraded to another version other than **P104_12_10**, then please download the **Firmware Downgrade Instructions** (PDF) from the Quintum Support website:
http://www.quintum.com/support/products/2G/tenor_2G/2g_analog.shtml

3. Using the Advanced Explore Menu.

Use the Advanced Explore menu to configure the Quintum device.

Click on the 

tab to get you to the **Advanced Explore** side bar menu.

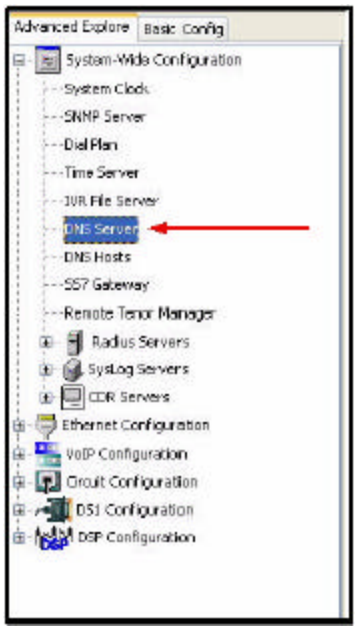


4. Configuring the IP Address

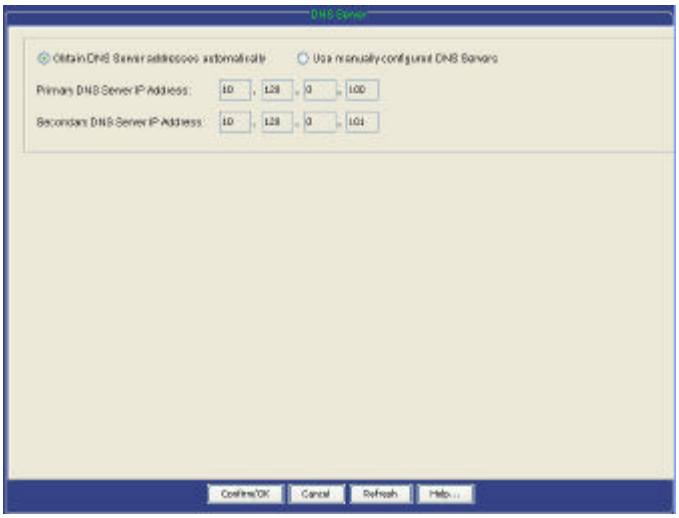
Part I

a. On the left frame of the Configuration Manager, click the plus (+) sign next to **System-Wide Configuration** to expand the category.
The subcategories display beneath System-Wide Configuration.

b. Click on **DNS Server**.



The **DNS Server** screen appears on the right frame of the Main Configuration window:



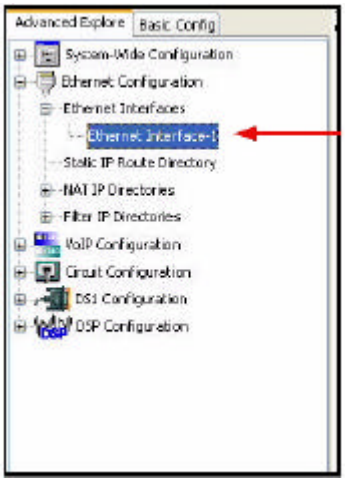
c. Specify whether your device will **Obtain DNS Server address automatically** or **Use manually configured DNS Servers**.

Part II

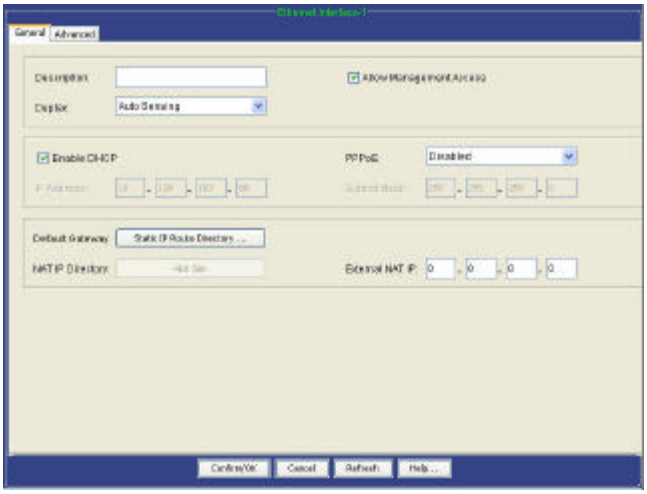
a. On the left frame of the Configuration Manager, click the plus (+) sign next to **Ethernet Configuration** to expand the category. *The subcategories display beneath Ethernet Configuration*.

b. On the left frame of the Configuration Manager, click the plus (+) sign next to **Ethernet Interfaces** to expand the category. *The subcategories display beneath Ethernet Interfaces.*

c. Click on **Ethernet Interfaces-1**.



The **Ethernet Interfaces-1** window appears on the right frame of the Configuration Manager.



d. Specify whether your device should use DHCP (check **Enable DHCP** box) or a static IP address (uncheck **Enable DHCP** box). This should be consistent with the choice in the **DNS Server** option above.

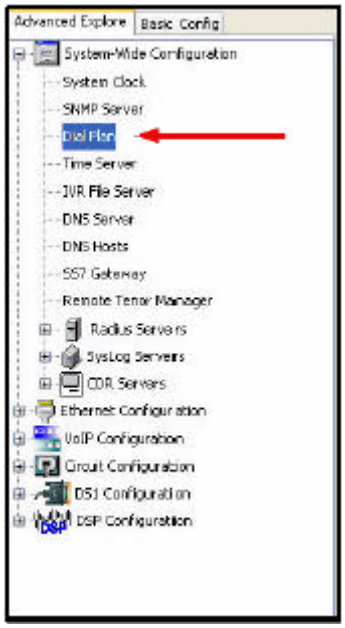
- If you will be using DHCP, keep the default settings.
- If you will be using a static IP address, input the following information:
  - IP Address
  - Subnet Mask

a. Click the

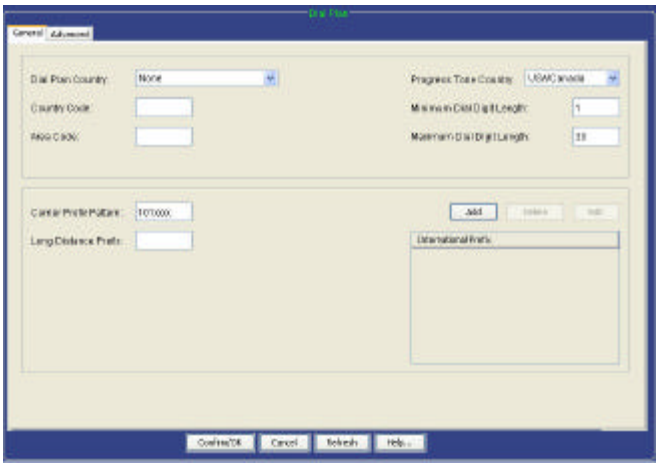
button.

4. Setting the Dial Plan

a. On the left frame of the Configuration Manager, click the **System-Wide Configuration** link to expand the category.
The subcategories display beneath System-Wide Configuration.



b. From the expanded menu, click the **Dial Plan** link.
The Dial Plan Window (General) appears on the left frame of the Configuration Manager.



On the Dial Plan screen, enter the appropriate entries for the following fields:

- Set the Dial Plan Country drop-down menu to the country option of choice.
- Set the Minimum Dial Length to the minimum amount of digits that you will be dialing.
- Set the Maximum Dial Length to the maximum amount of digits that you will be dialing.

When you are done, click on the Confirm/OK button.

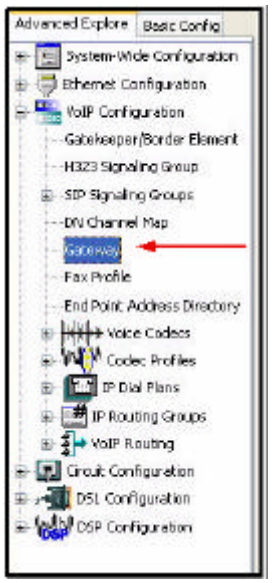
NOTE: Most dialing schemes will support a **Minimum Dial Digit Length** of 3 and a **Maximum Dial Digit Length** of 20.

NOTE: Setting the **Dial Plan Country** value to **None** will remove all restrictions on the Dial Plan Configuration**.**

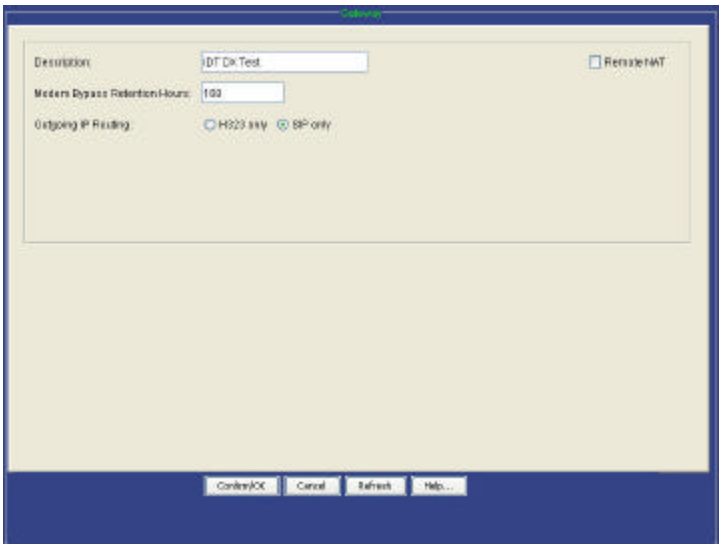
6. Configuring the Outgoing Routing Protocol

a. On the left frame of the Configuration Manager, click on the **VoIP Configuration** link to expand the category. *The subcategories display beneath the VoIP Configurstion.*

b. Click on the **Gateway** link.



The screen appears on the right frame of the Main Configuration window:

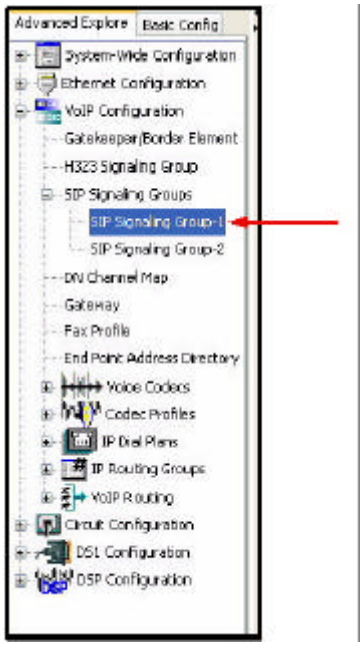


c. Select the SIP only option. Click on the Confirm/OK button.

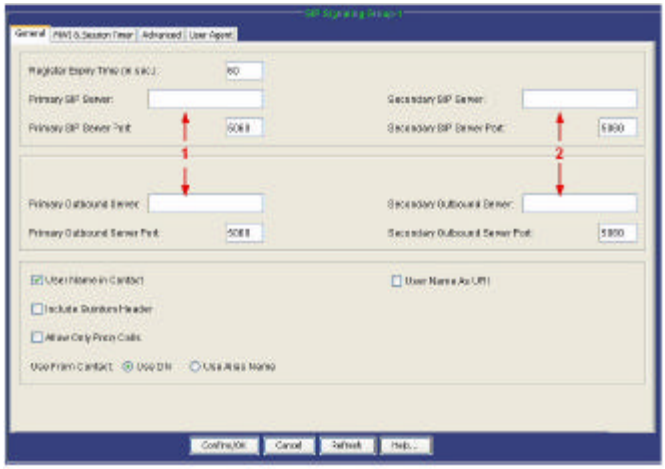
7. Configuring SIP Server Information

a. On the left frame of the Configuration Manager, click the plus (+) sign next to **VoIP Configuration** to expand the category.
The subcategories display beneath VoIP Configuration.

b. On the left frame of the Configuration Manager, click the plus (+) sign next to **SIP Signaling Groups** to expand the category.
The subcategories display beneath SIP Signaling Groups.



c. Click **SIP Signaling Group-1.** The **SIP Signaling Group-1** General View window appears.



d. Enter the following information as specified in the table below:

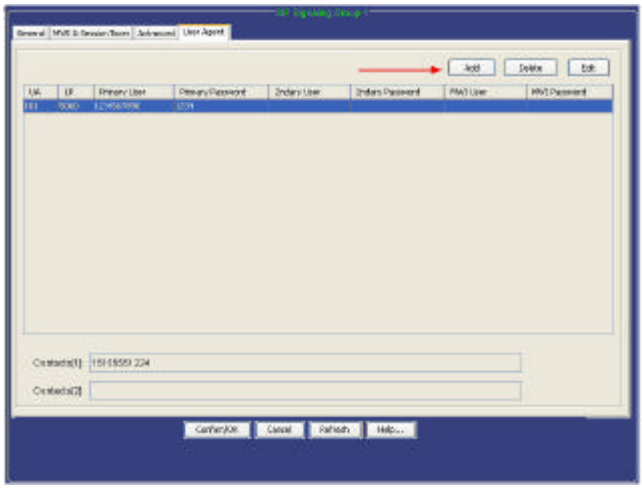
Field Name	Enter This Value
SIP Server IP Address/Domain Name	SIP Server IP Address or Domain Name
SIP Server Port	5060
Register Expiry Time (in seconds)	300

NOTE: You must **only** configure the Primary SIP Server and Primary Outbound Server fields (1) with the proper server values. **The "Secondary" server fields (2) must be left blank.**

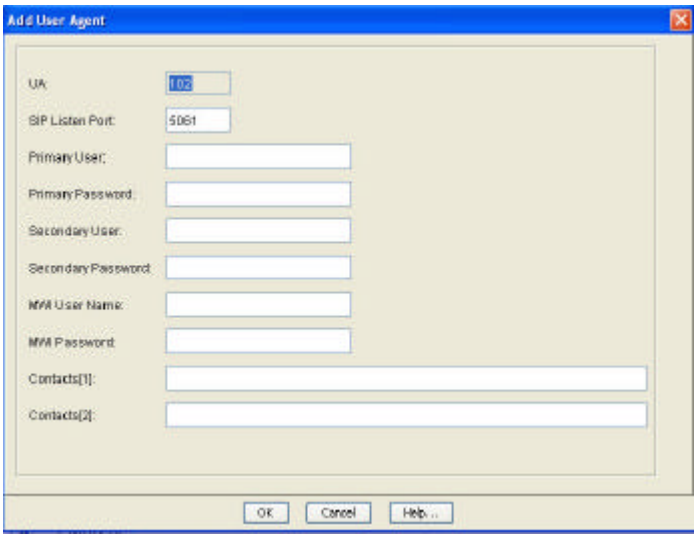
NOTE: Both the Primary SIP Server and Primary Outbound Server fields may likely use the same value depending on the customer's particular environment. In this is the case, then configuring the Primary Outbound Server field may likely be optional.

e. Click on the Confirm/OK button.

f. Click on the User Agent button to access the **User Agent** Configuration screen as shown below:



g. Click on the Add button to add accounts. The following window should appear:



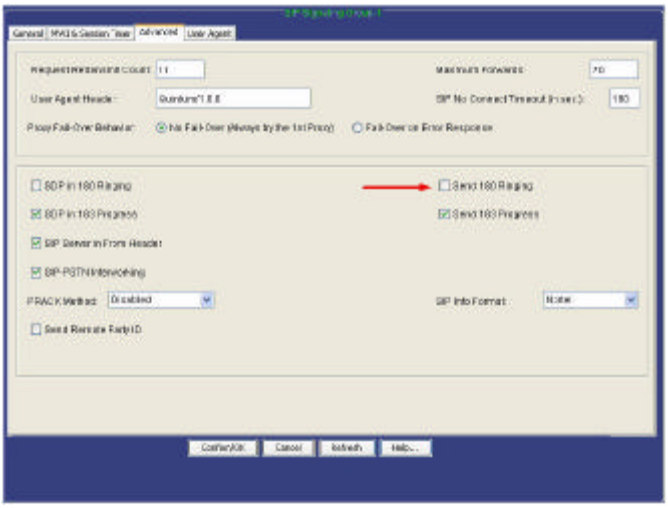
h. In the Add User Agent window, enter the following:

- In the **Primary User** field, enter your account number.
- In the **Primary Password** field, enter your PIN.
- In the **Contacts[1]** field, enter the phone number that is associated with your account.

Click on the Confirm/OK button to continue.

To configure more account numbers (on additional ports), click on the Add button and repeat the above process.

i. Click on the Advanced tab. The following window appears:



Make sure that the **Send 180 Progress** checkbox is un**checked** and that the **Send 183 Ringing** is **checked**.

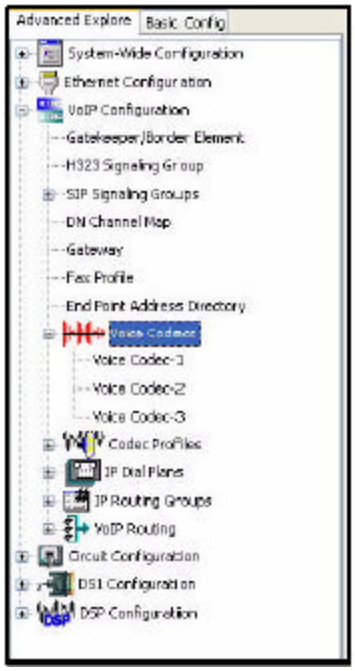
Click on the Confirm/OK button to continue.

8. Setting the Voice Codecs

To configure the voice codecs for the device, do the following:

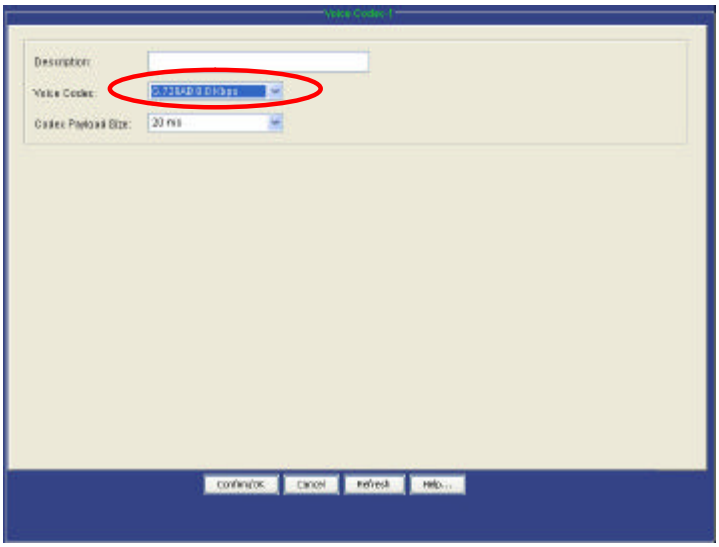
a. On the left frame of the Configuration Manager, click on the **VoIP Configuration** link to expand the category.
The subcategories display beneath Voice Configuration.

b. On the left frame of the Configuration Manager, click on the **Voice Codecs** link to expand the category.
The subcategories display beneath Voice Codecs.



c. Click **Voice Codec-1**.
The Voice Codec –1 page displays.

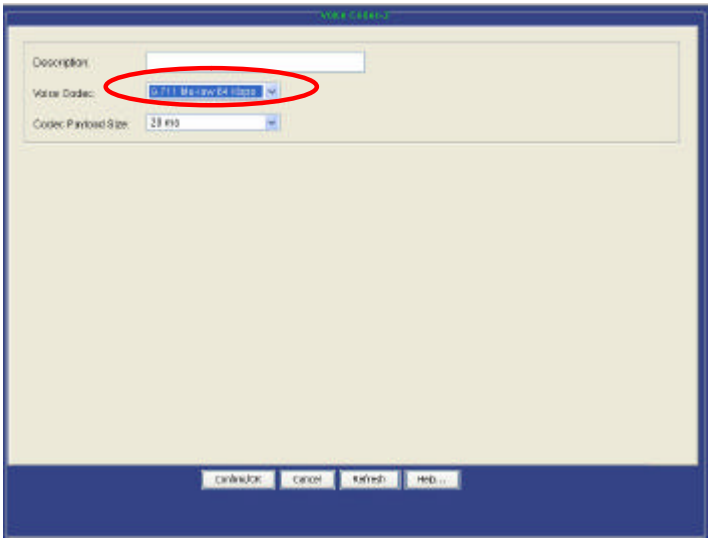
d. Click the **Voice Codec** drop-down list, and select **G.729AB 8.0 Kbps**.



e. Click on the Confirm/OK button .

f. Click **Voice Codec-2**. *The Voice Codec-2 page displays.*

g. Click the **Voice Codec** drop-down list and select **G.711 Mu-law 64 Kbps**.



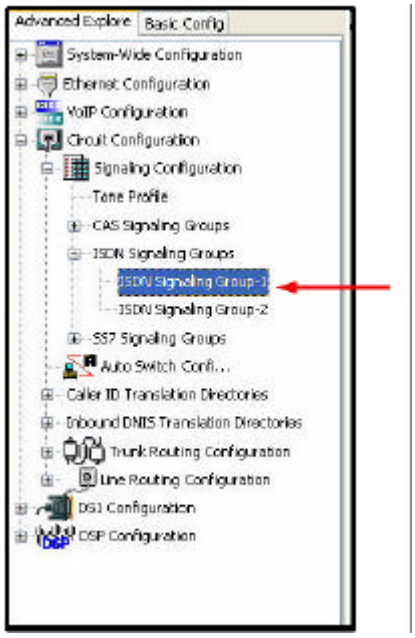
Click on the Confirm/OK button.

9. Setting ISDN Signaling Settings

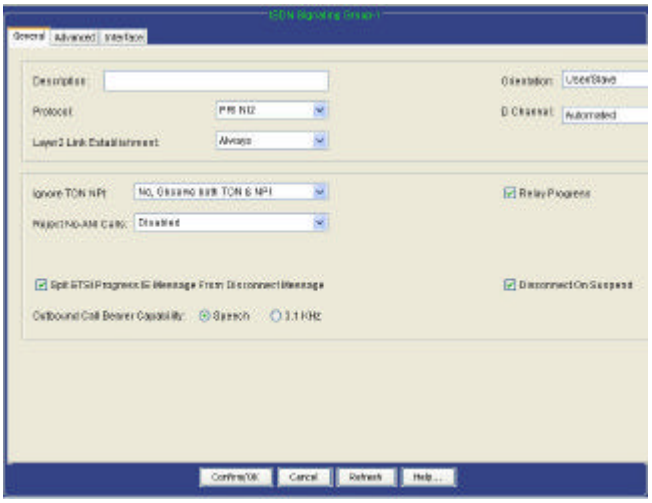
a. On the left frame of the Configuration Manager, click on the **Circuit Configuration** link to expand the category.
The subcategories display beneath Circuit Configuration.

b. From among the expanded categories, click on the **Signaling Configuration** link to expand it. *The subcategories display beneath Signaling Configuration.*

c. From among the expanded categories, click on the **ISDN Signaling Groups** link to expand the category.
The subcategories display beneath ISDN Signaling Groups.



d. Click on the **ISDN Signaling Group-1**.
The ISDN Signaling Group-1 window appears on the right.



e. Click the **Protocol** drop down menu, and select the protocol your configuration will be using.

Depending on the device, PRI and BRI protocols are supported. For a list of supported protocols, refer to the table on the following page.

It is important to find out the exact configuration of the lines beforehand. The following protocols are supported:

SUPPORTED PROTOCOLS	
Protocol	**Description**
PRI 5ESS	5ESS is the class 5 ISDN central office circuit switching system developed by AT&T.
PRI 4ESS	4ESS is the class 4 US AT&T proprietary version of ISDN.
PRI DMS	DMS is a digital circuit-switching standard developed by Nortel Networks.
PRI NI2	This is the CCITT National ISDN 2 PRI standard.
PRI INSNET 1500	This is the standard digital switching developed by NTT in Japan.
PRI ETSI	This is the standard developed by the European Telecommunications Standards Institute.
PRI QSIG	The QSIG protocol provides signaling for Private Integrated services Network Exchange (PINX) devices. It is based on the ISDN Q.931 standard.
DASS2	Digital Access Signaling System 2 (DASS2) is a protocol defined by British Telecom for digital links to the PSTN based on ISDN.
BRI NET3	This supports NET3 (TBR3) ISDN, and covers Euro-ISDN, and is ETSI-compliant.
BRI CCITT QSIG	This supports switches with QSIG signaling per the Q.931/Q.921 ISDN spec.
BRI S031	This supports Australian S031 ISDN switches.
BRI 1TR6	This supports German 1TR6 ISDN switches.
BRI NTT	This supports Japanese NTT ISDN switches.
BRI VNX	This supports French VNx ISDN switches.

f. Click the **Orientation** drop-down menu, and select the ISDN signaling orientation your configuration will be using. Options are User/Slave (TE) and Network/Master (NT):

   - When this signaling group is connected to a PSTN/Trunk-Side Connection or other types of devices such as switches (in which case, the PSTN would be the network), then set the **Orientation** parameter to **User**.

- o If this signaling group is connected to a PBX/Line-Side Connection, (which is typically User) then the **Orientation** is **Network**.

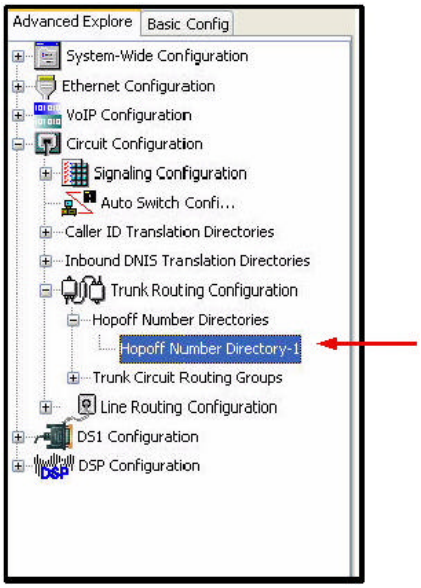
g. Click on the Confirm/OK button.

NOTE: If the link light above the connected port of the Tenor DX is orange, try changing the value in the **Orientation** field.

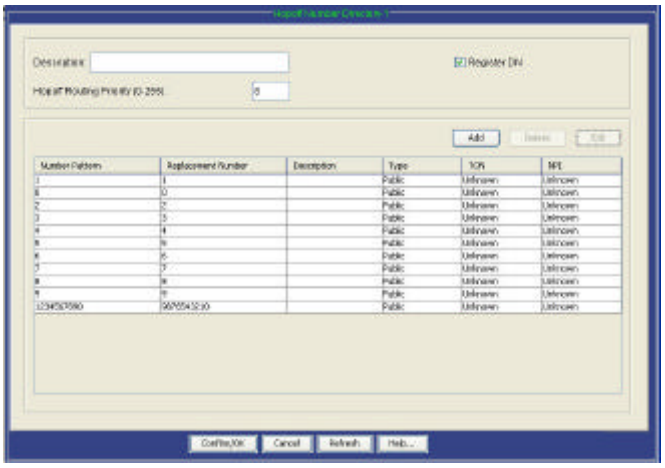
10. Setting Hopoff Number Directory Settings

a. From the expanded menu below the **Circuit Configuration** link, click on the **Trunk Routing Configuration** link to expand the subcategory. *The subcategories display beneath the Trun Routing Configuration.*

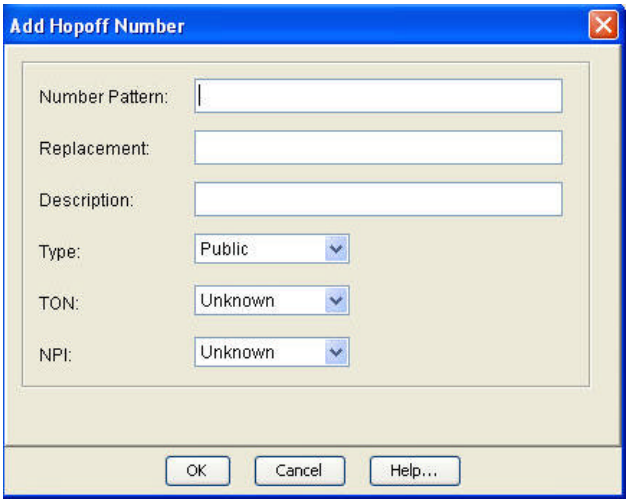
b. Click on the **Hopoff Number Directories** link to expand the subcategory.
The subcategories display beneath Hopoff Number Directories.



c. Click on the **Hopoff Number Directory-1** link.
The Hopoff Number Directory-1 window appears.



d. Click the **Add** button.
The Add Hopoff Number window displays.



e. In the **Number Pattern** field, enter the phone number of the configured SIP account.

f. In the **Replacement** field, enter the destination phone number or PBX extension. If the DX receives a call and the incoming Caller ID number matches the string value in the Number Pattern field, then the DX will re-route the call over ISDN to the destination number entered in the Replacement field.

For example: If the Tenor DX should route inbound calls on a SIP account's phone number 1234567890 (Number Pattern) to another destination number 1234567899 , enter **1234567890** in the **Number Pattern** field and **1234567899** in the **Replacement** field.

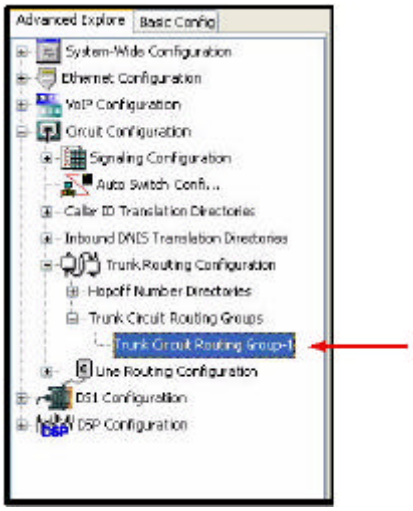
NOTE: To configure the Tenor DX to properly handle Hopoff Number functionality, it may be necessary to add individual entries for each number from 0 through 9.

Click on the Confirm/OK button.

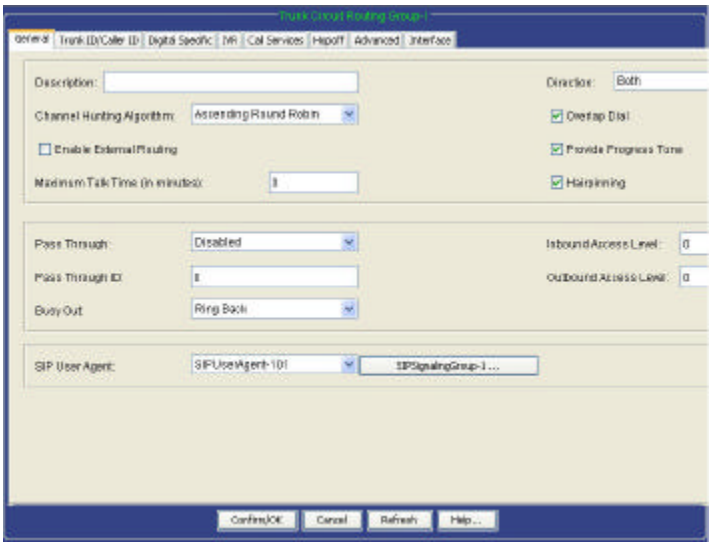
11. Setting Trunk Circuit Routing Settings

a. From the expanded menu below the **Circuit Configuration** sidebar link, cick on the **Trunk Routing Configuration.** *The subcategories display beneath Trunk Routing Configuration.*

b. Click on the **Trunk Circuit Routing Groups** link to expand the category.
The subcategories display beneath Trunk Circuit Routing Groups.



c. Click on the **Trunk Circuit Routing Group-1** link.
The Trunk Circuit Routing Group-1 window appears.



d. From within the **General** tab, select the SIP User Agent value to be used in the **SIP User Agent** drop-down box.

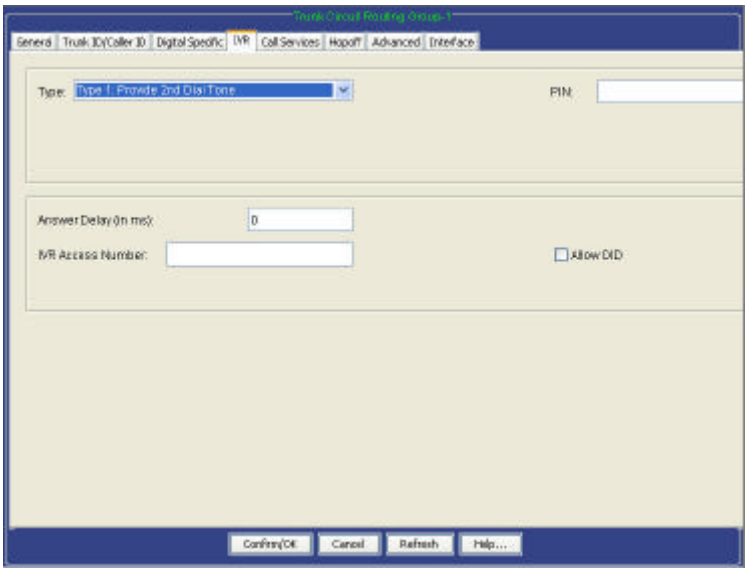
e. Click the **Overlap Dial** checkbox to enable overlap dial.

f. Click the **Provide Progress Tone** checkbox to enable the feature.

g. Click on the

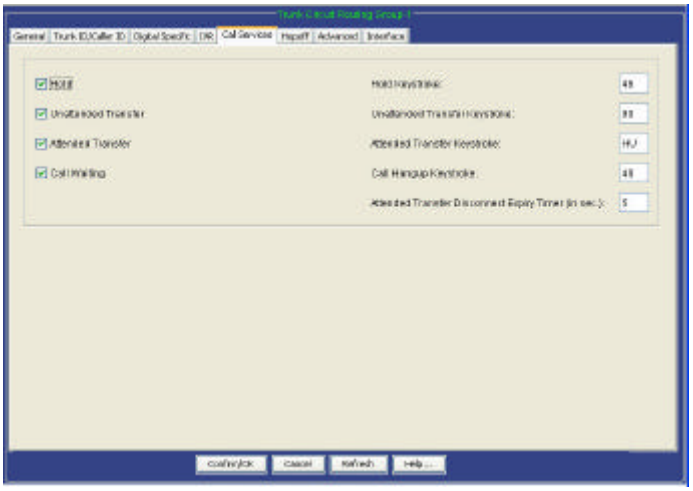
button.

h. Click the **IVR** tab at the top of the screen.
The IVR tab displays.



i. To enable a second dial tone (provided by the Tenor when the phone number connected to the T1/E1 line is dialed), click the Type drop-down menu, and select **Provide 2nd Dial Tone**.

j. Click on the Call Services tab.

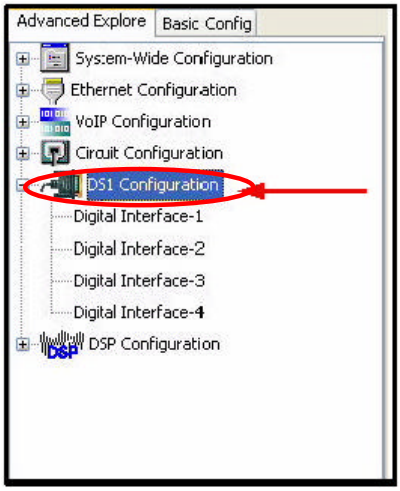


k. Click the **Hold, Unattended Transfer, Attended Transfer,** and **Call Waiting** boxes.

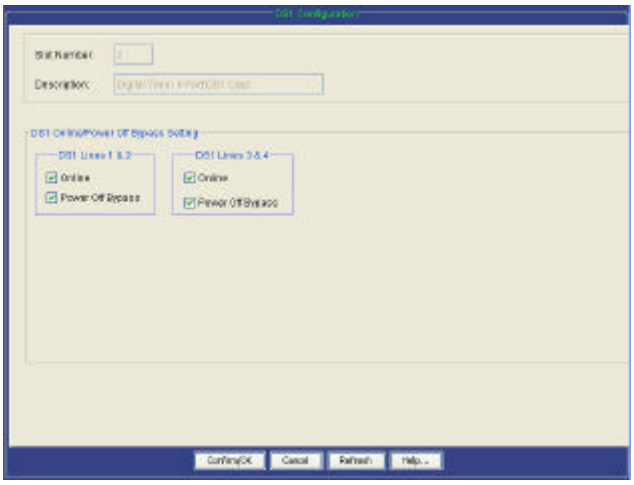
l. Click on the Confirm/OK button

12. Setting Trunk Circuit Routing Settings

a. On the left frame of the Configuration Manager, click **DS1 Configuration**.



The DS1 Configuration screen appears on the right frame.

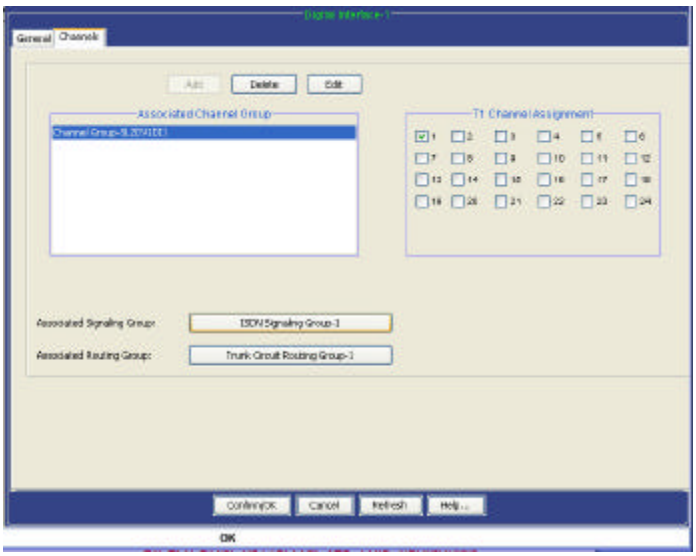


b. Click the **Online** checkboxes in the **DS1 Lines 1 & 2** and **DS1 Lines 3 & 4** boxes.

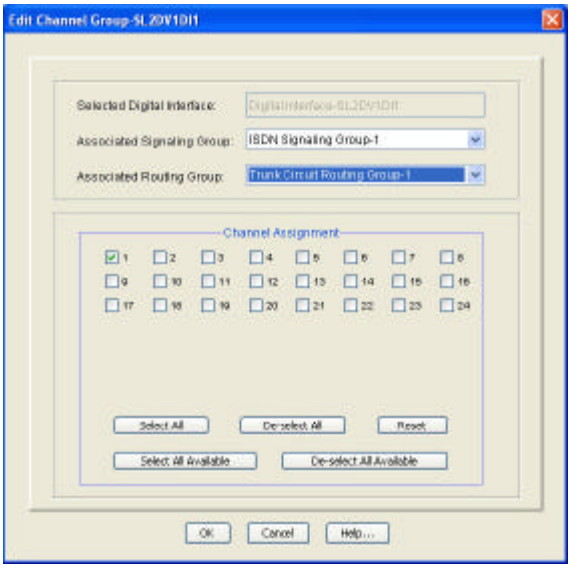
c. Click the

button at the bottom of the screen.

d. On the left frame of the Configuration Manager, click **Digital Interface-1**.



e. Click on the Channels tab, and then click on the **Edit** button. *The Edit Channel Group window displays*.



f. Click the **Associate Routing Group** drop-down menu, and select **Trunk Circuit Routing Group –1.**

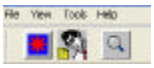
g. Click the **OK** button at the bottom of the screen.
The Edit Channel Group window closes and the Digital Interface –1 window displays.

h. Click the

button at the bottom of the screen.

Repeat the process for any additional Digital Interface lines listed in the DS1 section on the left frame of the Configuration Manager.

13. Finalizing the Configuration

Click the **Submit Changes** button on the menu bar 

to save the changes.

IMPORTANT: The Submit Changes button must be pressed every time configuration changes are made to the device; otherwise, the changes will not take effect.

Congratulations! You are now ready to start enjoying superior call quality on your Quintum Tenor DX.

Appendix: Assigning the Device IP Address Manually

In situations where the Quintum device fails to acquire a DHCP address, perform the following procedure to manually determine the IP address of the device.

If the Discovery window does not show any Quintum device, do the following:

1. Connect the Quintum device to a PC using a serial cable (DB9 female-to-DB9 male straight cable).

2. On a PC, open Hyperterminal. Establish a serial connection (COM1, COM2, etc.) and set the Port Settings to the following:

   Bits per second: **38400**
   Data bits: **8**
   Parity: **None**
   Stop bits: **1**
   Flow control: **None**

3. Once connected, enter the following sequence of Hyperterminal commands (entries in **bold** are system response, red are user input, and *italics* are descriptions):

<b25a7e82> Login:admin
Password: admin

Quintum# config
Enables entry into the config mode
config# ei
Enables entry into the Ethernet Interface menu
config-EthernetInterface-SL1DV1EI1# set dhcpe 0
Disables the dhcp feature
config-EthernetInterface-SL1DV1EI1# set ipa 192.168.1.11
Sets up a static IP address for the Quintum
config-EthernetInterface-SL1DV1EI1* set subnetmask 255.255.255.0
Sets up the subnet mask value
config-EthernetInterface-SL1DV1EI1* submit
Submits and saves changes to flash memory
config-EthernetInterface-SL1DV1EI1# siprd
Enables entry into the Static Route Directory
config-StaticIPRouteDir-1* change 1 g 192.168.1.1
Sets up the IP address of the gateway.
(NOTE: If connected to a router, use your router's IP address as the gateway address value in your DX configuration.)

StaticIPRoute Table

index	Destination	NetMask	Gateway	EIAttached	Metric
1	0.0.0.0	0.0.0.0	192.168.1.1	EI-SL1DV1EI1	1

config-StaticIPRouteDir-1*
config-StaticIPRouteDir-1* submit
Submits and saves changes to flash memory
config-StaticIPRouteDir-1# maint

Enables entry into Maintenance mode
maintain-StaticIPRouteDir-1# mc
Enables entry into the Master Chassis directory
maintain-MasterChassis-1# reset
Reboots the device

4. Once the device has obtained a valid IP address, return to the Quintum Tenor Configuration Manager and run the Discover option, or simply go to Connect and add the IP address manually.

The wizard will open up, and you will continue from where you left off in the procedure.

After the configuration setup has completed, you might be required to activate the analog ports manually from the tenor configuration manager. To do this, click on the **Phone (FXS)/Line(FXO) Configuration** menu in the Advanced Explore navigation tab and go to the **Analog Interface-Phone** sub-menu. Within the **General** tab, activate the ports by clicking the **Edit** button and selecting the appropriate ports. Click the Confirm/OK button at the bottom of the screen to apply the changes.